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Front cover: *Historical remarks to the Institute for Chemical Research (ICR)*

The chemical structure shown on the front cover represents poly(vinyl alcohol) (PVA) fiber, which was given the general name "vinylon" in Japan in 1948; later it was named "vinal" in the United States. Ichiro Sakurada and his collaborators succeeded in preparing water-insoluble PVA fiber, named "Kasen Gosei Ichigo [化繊合成一號]" meaning "Chemical Fiber, Synthesis No. 1 in Japan", in 1939 at the Institute for Chemical Research, Kyoto University. This was done by wet spinning of an aqueous solution of PVA into a coagulation bath of a sodium sulfate solution, and by subsequent formalization of the fiber. The chemical structure indicated corresponds to this fiber; in the structure of alternation of crystalline and amorphous regions only the amorphous parts are formalized. In 1940 they succeeded in improving the hot-water resistance of the fiber by means of heat

treatment of the wet-spun fiber in hot air, and by a suitable combination of heat treatment and formalization fiber could be obtained that was insoluble and stable without shrinkage even in boiling water. The pilot plant for developmental work on this fiber was erected in 1942 on the campus of this Institute, Takatsuki, Osaka (at that time), through the support of the semigovernmental organization, The Foundation for Synthetic Fiber Research, Japan. The test operation of this plant was continued during World War II and brought about great advances in expertise in the manufacturing process. Soon after the end of the War, a great effort to establish an industrial process for this fiber was made, and commercial production started in 1950. (Further reading: "Polyvinyl Alcohol Fibers" by I. Sakurada, Marcel Dekker, 1985.)



Photo. 1 Professor Ichiro Sakurada stands by the Monument for the Invention of Vinylon Fiber

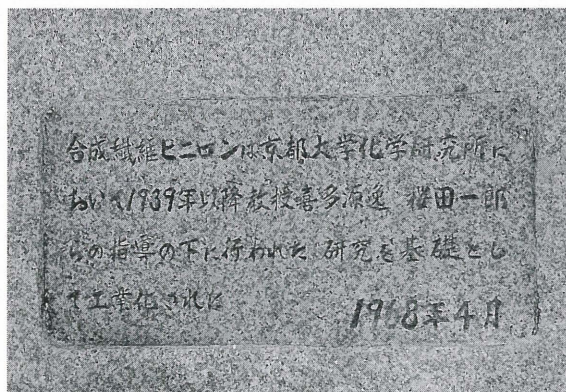


Photo. 2 The inscription on the Monument :
The synthetic fiber "VINYLON" was industrialized based on the fundamental investigations which had been conducted under the guidance of Prof Gen-itsu Kita and Prof Ichiro Sakurada at the Institute for Chemical Research, Kyoto University since 1939.

April 1968